

10/798,338

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Patent Office Classifications  
NEWS 7 AUG 02 The Analysis Edition of STN Express with Discover!  
(Version 7.01 for Windows) now available  
NEWS 8 AUG 04 Pricing for the Save Answers for SciFinder Wizard within  
STN Express with Discover! will change September 1, 2004  
NEWS 9 AUG 27 BIOCOMMERCE: Changes and enhancements to content coverage  
NEWS 10 AUG 27 BIOTECHABS/BIOTECHDS: Two new display fields added for legal  
status data from INPADOC  
NEWS 11 SEP 01 INPADOC: New family current-awareness alert (SDI) available  
NEWS 12 SEP 01 New pricing for the Save Answers for SciFinder Wizard within  
STN Express with Discover!  
NEWS 13 SEP 01 New display format, HITSTR, available in WPIDS/WPINDEX/WPIX  
NEWS 14 SEP 14 STN Patent Forum to be held October 13, 2004, in Iselin, NJ

NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
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FILE 'HOME' ENTERED AT 17:35:46 ON 22 SEP 2004

10/798,338

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

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FULL ESTIMATED COST

0.21

0.21

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STRUCTURE FILE UPDATES: 21 SEP 2004 HIGHEST RN 749178-43-6

DICTIONARY FILE UPDATES: 21 SEP 2004 HIGHEST RN 749178-43-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

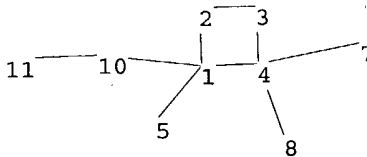
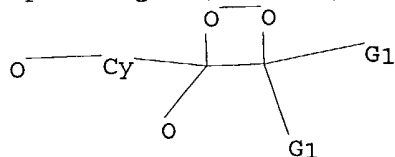
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=>  
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chain nodes :

5 7 8 10 11

ring nodes :

1 2 3 4

chain bonds :

1-5 1-10 4-7 4-8 10-11

ring bonds :

1-2 1-4 2-3 3-4

exact/norm bonds :

1-2 1-4 1-5 1-10 2-3 3-4 4-7 4-8 10-11

G1:H,Cy,Ak

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS 7:CLASS 8:CLASS 10:Atom 11:CLASS

L1 STRUCTURE UPLOADED

10/798,338

=> s l1

SAMPLE SEARCH INITIATED 17:36:10 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 75 TO ITERATE

100.0% PROCESSED 75 ITERATIONS  
SEARCH TIME: 00.00.01

6 ANSWERS

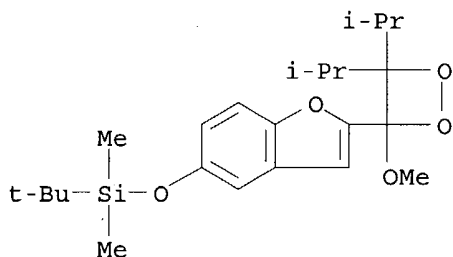
FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 981 TO 2019  
PROJECTED ANSWERS: 6 TO 266

L2 6 SEA SSS SAM L1

=> d scan

L2 6 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Silane, (1,1-dimethylethyl) [[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-5-benzofuranyl]oxy]dimethyl- (9CI)  
MF C23 H36 O5 Si



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s l1 ful

FULL SEARCH INITIATED 17:36:36 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 1317 TO ITERATE

100.0% PROCESSED 1317 ITERATIONS  
SEARCH TIME: 00.00.01

89 ANSWERS

L3 89 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

155.42

155.63

FILE 'CAPLUS' ENTERED AT 17:36:42 ON 22 SEP 2004  
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FILE COVERS 1907 - 22 Sep 2004 VOL 141 ISS 13  
FILE LAST UPDATED: 21 Sep 2004 (20040921/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L4 22 L3

=> d 14 ibib hitstr abs 1-22

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:261768 CAPLUS

DOCUMENT NUMBER: 138:289853

TITLE: Uses of improved polymer-supported photosensitizers in the generation of singlet oxygen

INVENTOR(S): Akhavan-Tafti, Hashem; Handley, Richard S.; Sandison, Mark D.; Larkin, Randall K.

PATENT ASSIGNEE(S): Lumigen, Inc., USA

SOURCE: PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

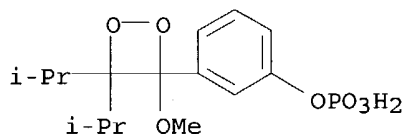
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003027007	A1	20030403	WO 2002-US21859	20020823
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003095916	A1	20030522	US 2001-965046	20010927
US 6774249	B2	20040810		
EP 1429993	A1	20040623	EP 2002-761074	20020823
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
PRIORITY APPLN. INFO.:			US 2001-965046	A 20010927
			WO 2002-US21859	W 20020823
IT 172024-15-6P				
RL: IMF (Industrial manufacture); PREP (Preparation)				

(uses of improved polymer-supported photosensitizers in the generation of singlet oxygen)

RN 172024-15-6 CAPLUS

CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

AB The polymer-immobilized photosensitizers comprise a cross-linked polymer backbone, a plurality of cationic ammonium or phosphonium groups covalently bound to the polymer backbone and an immobilized photosensitizer. The average total number of carbon atoms in the ammonium or phosphonium group is at least four and preferably at least 12. The photosensitizer can be either covalently or ionically bound to the polymer. Polymer-supported photosensitizers of the invention are unexpectedly superior in catalyzing the photosensitized oxidation of compds. containing carbon-carbon double bonds.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:261766 CAPLUS

DOCUMENT NUMBER: 138:278314

TITLE: Improved polymer-supported photosensitizers

INVENTOR(S): Akhavan-Tafti, Hashem; Handley, Richard S.; Sandison, Mark D.; Larkin, Randall K.

PATENT ASSIGNEE(S): Lumigen, Inc., USA

SOURCE: PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

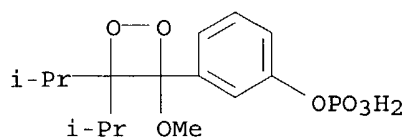
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003027004	A2	20030403	WO 2002-US25946	20020827
WO 2003027004	A3	20030703		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 6545102	B1	20030408	US 2001-965692	20010927

10/798,338

EP 1432640 A2 20040630 EP 2002-763452 20020827  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
PRIORITY APPLN. INFO.: US 2001-965692 A 20010927  
WO 2002-US25946 W 20020827  
IT 172024-15-6P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymer supported photosensitizers for photooxidn.)  
RN 172024-15-6 CAPLUS  
CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-,  
dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

AB Title polymer-immobilized photosensitizers comprise a crosslinked polymer backbone, a plurality of cationic ammonium or phosphonium groups covalently bound to the polymer backbone and an immobilized photosensitizer. The average total number of carbon atoms in the ammonium or phosphonium group is at least four and preferably at least 12. The photosensitizer can be either covalently or ionically bound to the polymer. Polymer-supported photosensitizers of the invention are unexpectedly superior in catalyzing the photosensitized oxidation of compds. containing carbon-carbon double bonds.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:728889 CAPLUS

DOCUMENT NUMBER: 137:263177

TITLE: Stable silicon-containing illuminating 1,2-dioxetane derivatives

INVENTOR(S): Yamada, Magohei; Honda, Takeo

PATENT ASSIGNEE(S): International Reagents Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002275189	A2	20020925	JP 2001-78493	20010319
PRIORITY APPLN. INFO.:			JP 2001-78493	20010319
OTHER SOURCE(S):	MARPAT	137:263177		

IT 461552-85-2P, 3,3-Bis(2-trimethylsilylethyl)-4-methoxy-4-(3-phosphoryloxy)phenyl-1,2-dioxetane disodium salt 461553-31-1P  
461553-58-2P

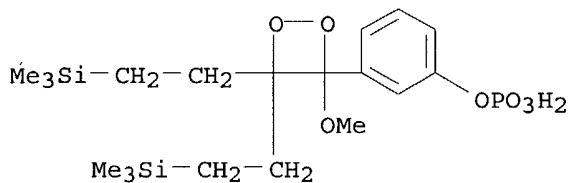
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of stable silicon-containing illuminating 1,2-dioxetane derivs.)

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RN 461552-85-2 CAPLUS

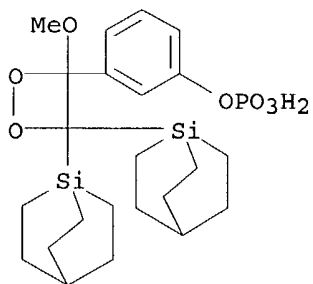
CN Phenol, 3-[3-methoxy-4,4-bis[2-(trimethylsilyl)ethyl]-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 461553-31-1 CAPLUS

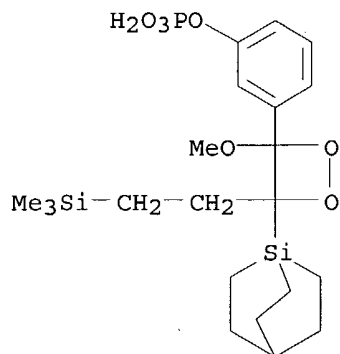
CN Phenol, 3-(3-methoxy-4,4-di-1-silabicyclo[2.2.2]oct-1-yl)-1,2-dioxetan-3-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

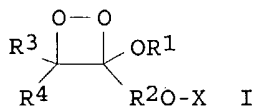
RN 461553-58-2 CAPLUS

CN Phenol, 3-[3-methoxy-4-(1-silabicyclo[2.2.2]oct-1-yl)-4-[2-(trimethylsilyl)ethyl]-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

GI



AB The title compds. have the structure I, where R1 is a C1-12 alkyl, R2 is an aryl, biaryl, heteroaryl, etc., R3-4 are (CH<sub>2</sub>)<sub>n</sub>SiR<sub>5</sub>R<sub>6</sub>R<sub>7</sub>, resp., R5-7 are C1-12 alkyls, n = 0-5, X is a removable group decomposing to form illuminating compds. E.g., 3,3-bis[2-(trimethylsilyl)ethyl]-4-methoxy-4-[3-(phosphoryloxy)phenyl]-1,2-dioxetane di-Na salt (I) was prepared via the condensation of Me 3-[(tert-butyldimethylsilyl)oxy]benzoate with 2,2,8,8-Tetramethyl-2,8-disila-5-nonanone to give (Me<sub>3</sub>SiCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>C:C(OMe)(C<sub>6</sub>H<sub>4</sub>(OSiMe<sub>2</sub>Bu-t)-m) (II). II was then deprotected to give (Me<sub>3</sub>SiCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>C:C(OMe)(C<sub>6</sub>H<sub>4</sub>OH-m) which was subsequently phosphorylated to give (Me<sub>3</sub>SiCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>C:C(OMe)(C<sub>6</sub>H<sub>4</sub>(OPO<sub>3</sub>Na<sub>2</sub>)-m) (III). III was then converted in presence Rose Bengal to the final product I.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:533013 CAPLUS

DOCUMENT NUMBER: 138:255276

TITLE: Synthesis of 3-[1-(t-butyldimethylsiloxy)fluoren-3-yl]-4,4-diisopropyl-3-methoxy-1,2-dioxetanes and their fluoride-induced chemiluminescent decomposition in dimethyl sulfoxide

AUTHOR(S): Matsumoto, Masakatsu; Ohta, Keisuke

CORPORATE SOURCE: Department of Materials Science, Kanagawa University, Hiratsuka, Kanagawa, 259-1293, Japan

SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2002), 3(2), 219-224

CODEN: ILBMF9; ISSN: 1531-2046

PUBLISHER: ITE-IBA Publication Office

DOCUMENT TYPE: Journal

LANGUAGE: English



10/798,338

OTHER SOURCE(S): CASREACT 138:255276

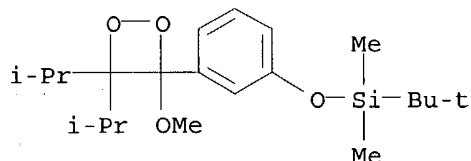
IT 163396-60-9 173438-83-0

RL: PRP (Properties)

(synthesis of (t-butyldimethylsiloxy)fluorenyl diisopropylmethoxy dioxetanes and their fluoride-induced chemiluminescent decomposition in DMSO)

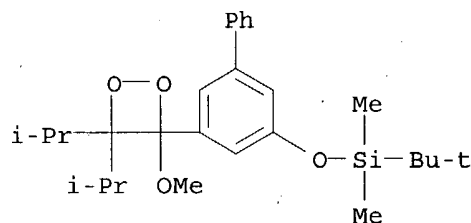
RN 163396-60-9 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 173438-83-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [[5-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl] [1,1'-biphenyl]-3-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



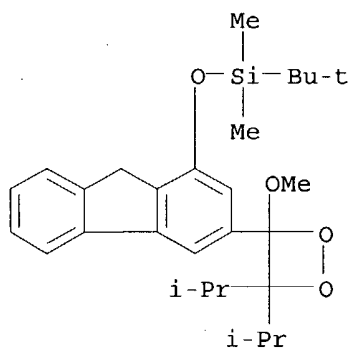
IT 184095-25-8P 184095-27-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis of (t-butyldimethylsiloxy)fluorenyl diisopropylmethoxy dioxetanes and their fluoride-induced chemiluminescent decomposition in DMSO)

RN 184095-25-8 CAPLUS

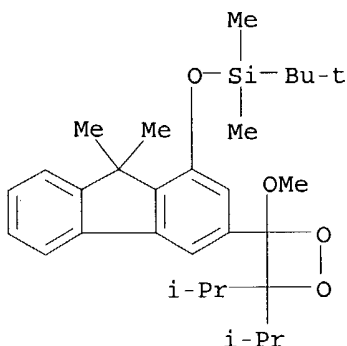
CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-9H-fluoren-1-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



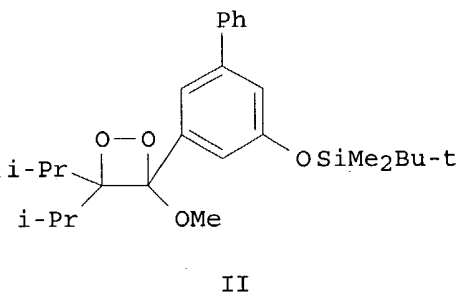
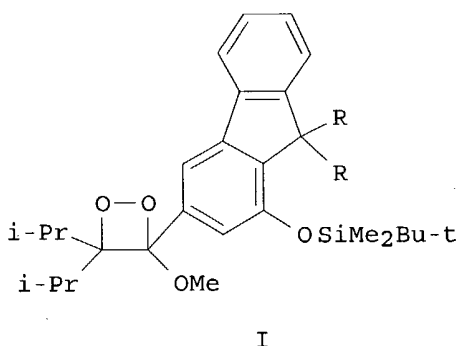
RN 184095-27-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-

dioxetan-3-yl]-9,9-dimethyl-9H-fluoren-1-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



GI



AB A dioxetane bearing a 1-siloxyfluoren-3-yl moiety I (R = H) and its 9,9-dimethylfluorenyl-analog I (R = Me) were synthesized. Treatment of the fluorenyl-substituted dioxetanes I with tetrabutylammonium fluoride afforded light with a maximum wavelength ( $\lambda_{\max}$ ) shorter than that for the corresponding biphenyl-substituted dioxetane II. The chemiluminescent efficiencies ( $\Phi_{\text{CIEEL}}$ ) were slightly different from each other for I and II, though the CIEEL-decay rates were more rapid for I than for II.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:124182 CAPLUS

DOCUMENT NUMBER: 136:369366

TITLE: Intramolecular electron-transfer-induced cleavage of dioxetanes observed in fast-atom bombardment tandem mass spectrometry

AUTHOR(S): Ohashi, Mamoru; Takanashi, Masakazu; Watanabe, Nobuko; Matsumoto, Masakatsu; Saisu, Takumi; Niwa, Haruki

CORPORATE SOURCE: Department of Chemistry, Kanagawa University, Kanagawa, 259-1293, Japan

SOURCE: European Journal of Mass Spectrometry (2001), 7(6),

441-445

CODEN: EJMSCL; ISSN: 1469-0667

PUBLISHER:

IM Publications

DOCUMENT TYPE:

Journal

LANGUAGE:

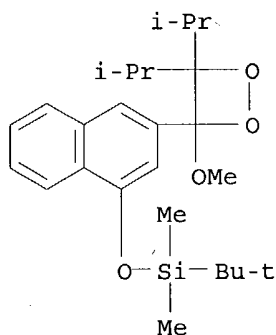
English

IT 187962-02-3 187962-04-5

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (intramol. electron-transfer-induced cleavage of dioxetanes observed in fast-atom bombardment tandem mass spectrometry)

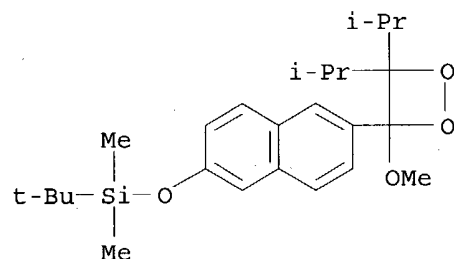
RN 187962-02-3 CAPLUS

CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



RN 187962-04-5 CAPLUS

CN Silane, (1,1-dimethylethyl) [[6-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



AB Phenolic spiroadamantyl-substituted dioxetanes are well known base-induced chemiluminescent compds. Fast-atom bombardment collision-induced dissociation tandem mass spectrometry (FAB CID-MS/MS) of five phenolic spiroadamantyl-substituted dioxetanes in the neg.-ion mode clearly showed that a highly efficient cleavage of the dioxetane rings took place to produce the corresponding phenolate ion almost exclusively. The mass spectrometric behavior of these compds. reflects the highly efficient intramol. electron-transfer-induced cleavage of dioxetane rings, which participates in the highly efficient base-triggered chemiluminescent reactions of these compds. in solution

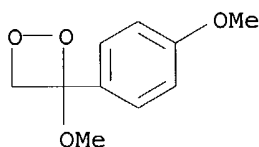
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:519964 CAPLUS

10/798,338

DOCUMENT NUMBER: 135:288429  
TITLE: Relation between the structure of  $\beta$ -peroxyalkyl radicals and selectivity of epoxide formation in oxidation of substituted styrenes  
AUTHOR(S): Suprun, V. Ya.; Opeida, I. A.  
CORPORATE SOURCE: Inst. fur Tech. und Makromol. Chem., Martin Luther Univ., Merseburg, Germany  
SOURCE: Zhurnal Fizicheskoi Khimii (2001), 75(5), 843-849  
CODEN: ZFKHA9; ISSN: 0044-4537  
PUBLISHER: MAIK Nauka  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
IT 364329-42-0  
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)  
(dioxetane; relation between the structure of  $\beta$ -peroxyalkyl radicals and selectivity of epoxide formation in oxidation of substituted styrenes)  
RN 364329-42-0 CAPLUS  
CN 1,2-Dioxetane, 3-methoxy-3-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



AB Weak correlation between electronic and mol. structure parameters of ring- and chain-substituted styrenes and the  $\beta$ -peroxyalkyl radicals formed from them by addition of  $\text{MeOO}\cdot$  to the  $\beta$ -position (e.g., in the simplest case  $\text{PhCH}\cdot\text{CH}_2\text{OOMe}$ ) suggested that reactant properties alone were inadequate for explanation of epoxidn. selectivity, the latter determined by reaction of the  $\beta$ -peroxyalkyl radicals. A final regression equation for epoxidn. selectivity containing electron d., Coulomb repulsion, as well as thermodyn. terms for chain propagation (enthalpy of decomposition of  $\beta$ -peroxyalkyl radical to the epoxide + alkoxy radical, enthalpy of reaction of  $\beta$ -peroxyalkyl radical with  $\text{O}_2$ ) had a correlation coefficient of 0.951.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2000:861923 CAPLUS  
DOCUMENT NUMBER: 134:16513  
TITLE: Method and kit for measuring anti-GAD antibody by chemiluminescent immunoassay  
INVENTOR(S): Sato, Yumi; Wada, Naruhito; Kojima, Masaharu; Tanno, Kazunobu  
PATENT ASSIGNEE(S): Kyokuto Pharmaceutical Industrial Co., Ltd., Japan  
SOURCE: PCT Int. Appl., 43 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000073800	A1	20001207	WO 1999-JP2925	19990601
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,				

10/798,338

DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,  
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,  
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,  
MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9939589 A1 20001218 AU 1999-39589 19990601

EP 1102067 A1 20010523 EP 1999-922631 19990601

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI

PRIORITY APPLN. INFO.: WO 1999-JP2925 A 19990601

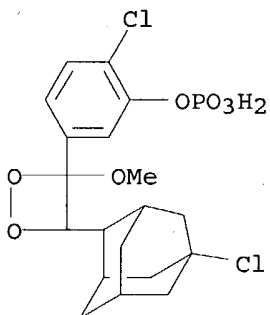
OTHER SOURCE(S): MARPAT 134:16513

IT 309754-79-8 309754-80-1

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and kit for measuring anti-GAD antibody by chemiluminescent  
immunoassay)

RN 309754-79-8 CAPLUS

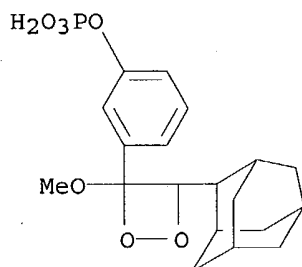
CN Phenol, 2-chloro-5-[4-(5-chlorotricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl)-3-methoxy-1,2-  
dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX  
NAME)



●2 Na

RN 309754-80-1 CAPLUS

CN Phenol, 3-(3-methoxy-4-tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl-1,2-dioxetan-3-yl)-,  
dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

AB A safe and high-performance method is provided for detecting and measuring anti-GAD (glutamic acid decarboxylase) autoantibody with a high sensitivity and a high specificity comparable to those achieved by RIA. A kit used for this method is also claimed. In this method, a sample is brought into contact with a support carrying an immobilized recombinant GAD antigen. Then, the antibody contained in the sample is bound to the antigen on the support to form an antigen-antibody complex. The complex is detected with the use of a chemiluminescent dioxetane derivative (e.g, 2-chloro-5-(4-methoxyspiro{1,2-dioxetane-3,2'-(5'-chloro)-tricyclo[3.3.1.13,7]decane}-4-yl)-1-phenylphosphoric acid disodium, 3-(4-methoxyspiro{1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane}-4-yl)-1-phenylphosphoric acid disodium) possessing a group (e.g, phosphate group) which can be cleaved with an enzyme (e.g, alkaline phosphatase) to generate chemiluminescence, and a secondary antibody (antibody capable of binding with human anti-GAD antibody or antibody capable of binding with recombinant GAD antigen) labeled with the enzyme capable of cleaving this group to generate chemiluminescence. This immunoassay method exhibited an excellence in basic properties such as dilution linearity, same-time reproducibility, day-to-day reproducibility, and influence by co-existing substances. Upon measuring anti-GAD antibody with serum samples from IDDM patients, a high correlation was observed between this method and the conventional radio-immunopptn. method.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:87179 CAPLUS

DOCUMENT NUMBER: 132:264812

TITLE: Synthesis of 3-ethoxy-4,4-diisopropyl-1,2-dioxetanes bearing a benzo(b)furan-2-yl or a benzo(b)thiophen-2-yl group: CIEEL-active dioxetanes emitting red light

AUTHOR(S): Matsumoto, Masakatsu; Hiroshima, Tatsuji; Chiba, Shuichi; Isobe, Ryo; Watanabe, Nobuko; Kobayashi, Hisako

CORPORATE SOURCE: Department of Materials Science, Kanagawa University, Kanagawa, 259-12, Japan

SOURCE: Luminescence (1999), 14(6), 345-348

CODEN: LUMIFC; ISSN: 1522-7235

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 132:264812

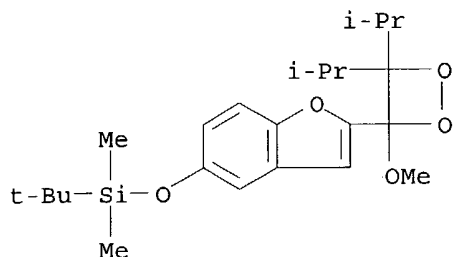
IT 263339-55-5P 263339-56-6P 263339-57-7P

## 263339-58-8P 263339-59-9P 263339-72-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and chemiluminescence of ethoxydiisopropyldioxetanes bearing a  
 benzo[b]furan-2-yl or a benzo[b]thiophen-2-yl group)

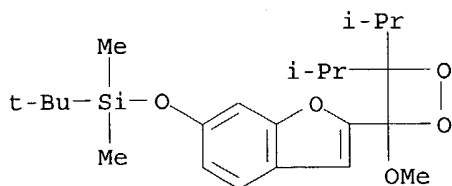
RN 263339-55-5 CAPLUS

CN Silane, (1,1-dimethylethyl)[[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-  
 dioxetan-3-yl]-5-benzofuranyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



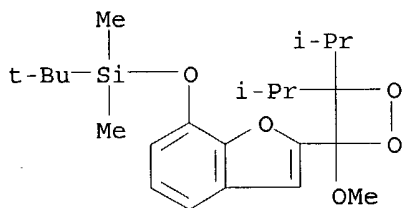
RN 263339-56-6 CAPLUS

CN Silane, (1,1-dimethylethyl)[[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-  
 dioxetan-3-yl]-6-benzofuranyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



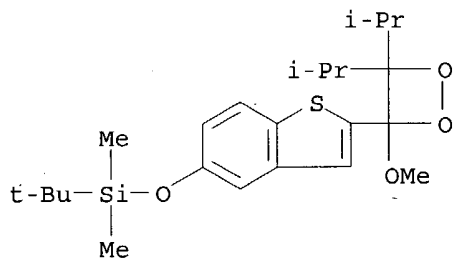
RN 263339-57-7 CAPLUS

CN Silane, (1,1-dimethylethyl)[[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-  
 dioxetan-3-yl]-7-benzofuranyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



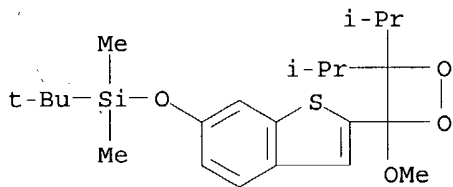
RN 263339-58-8 CAPLUS

CN Silane, (1,1-dimethylethyl)[[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-  
 dioxetan-3-yl]benzo[b]thien-5-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



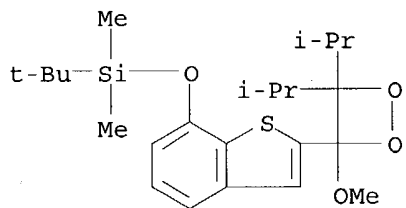
RN 263339-59-9 CAPLUS

CN Silane, (1,1-dimethylethyl) [[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]benzo[b]thien-6-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)

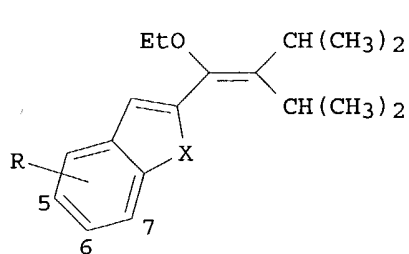


RN 263339-72-6 CAPLUS

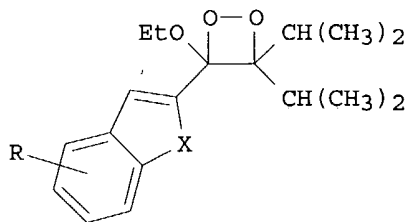
CN Silane, (1,1-dimethylethyl) [[2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]benzo[b]thien-7-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



GI



I



II

AB Low-temperature singlet oxygenation of 1-ethoxy-2,2-diisopropylethylenes substituted with a benzo[b]furanyl or a benzo[b]thiophenyl group bearing a t-butyldimethylsiloxo group at the 5-, 6-, or 7-position of the aromatic ring I (R = 5-, 6-, or 7-t-BuMe<sub>2</sub>SiO; X = O, S) afforded the corresponding



1,2-dioxetanes II in moderate to high yields. On treatment with tetrabutylammonium fluoride in DMSO, dioxetanes with a trigger (siloxy group) at the 5- or 7-position of the aromatic ring decomposed with emission of red light ( $\lambda_{\text{max}} = 615\text{--}628\text{ nm}$ ), irrespectively of the aromatic ring being benzofuran or benzothiophene. For both series of benzofuran and benzothiophene analogs, an "odd/even" relationship between the position of an oxygen on the aromatic ring relative to the attachment point to the dioxetane and the chemiluminescent properties, maximum wavelength ( $\lambda_{\text{max}}$ ), efficiency ( $\Phi_{\text{CL}}$ ), and half-life ( $t_{1/2}$ ), is observed, as in the case for dioxetanes bearing a phenolic or naphtholic substituent.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:369560 CAPLUS

DOCUMENT NUMBER: 131:115960

TITLE: Synthesis of 3,3-diisopropyl-4-methoxy-4-(siloxy-2-naphthyl)-1,2-dioxetanes and their F--induced chemiluminescent decomposition

AUTHOR(S): Watanabe, Nobuko; Kobayashi, Hisako; Azami, Mitsunori; Matsumoto, Masakatsu

CORPORATE SOURCE: Department of Materials Science, Kanagawa University, Kanagawa, 259-1205, Japan

SOURCE: Tetrahedron (1999), 55(22), 6831-6840

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 187961-96-2P 187962-02-3P 187962-03-4P

187962-04-5P 187962-05-6P 187962-06-7P

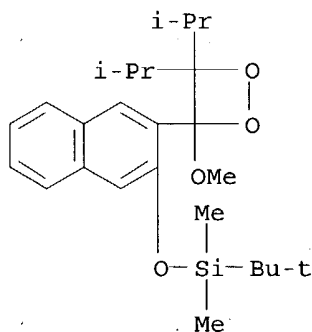
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(fluoride-induced chemiluminescence; synthesis of isomeric

3,3-diisopropyl-4-methoxy-4-(siloxy-2-naphthyl)-1,2-dioxetanes and their F--induced chemiluminescent decomposition)

RN 187961-96-2 CAPLUS

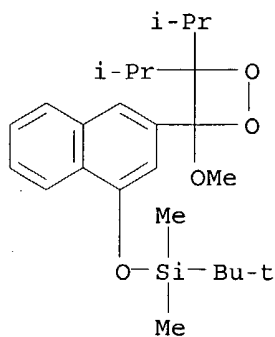
CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



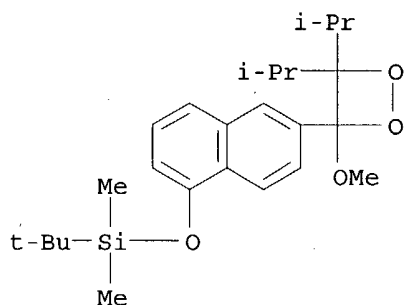
RN 187962-02-3 CAPLUS

CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)

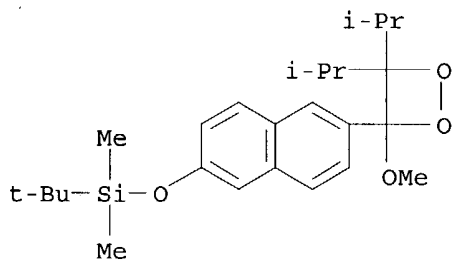
10/798,338



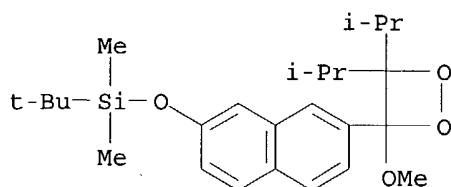
RN 187962-03-4 CAPLUS  
CN Silane, (1,1-dimethylethyl) [[6-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



RN 187962-04-5 CAPLUS  
CN Silane, (1,1-dimethylethyl) [[6-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)

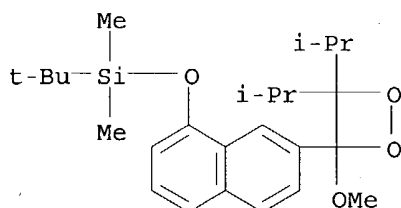


RN 187962-05-6 CAPLUS  
CN Silane, (1,1-dimethylethyl) [[7-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



RN 187962-06-7 CAPLUS

CN Silane, (1,1-dimethylethyl)[[7-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



AB Six isomeric 3,3-diisopropyl-4-methoxy-4-(siloxy-2-naphthyl)-1,2-dioxetanes [3; siloxy groups in positions 3, 4, 5, 6, 7, and 8 (a-f, resp.)] were synthesized and their F--induced chemiluminescent decomposition was examined in DMSO. The "odd/even" relationship in  $\Phi_{CL}$  holds for all the dioxetanes (3). On the other hand, the "odd/even" relationship in emission half-lives  $t_{1/2}$  is observed for dioxetanes (3c-3f) with a trigger on the ring B but not for dioxetanes (3a and 3b) with a trigger on the ring A.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:256007 CAPLUS

DOCUMENT NUMBER: 130:338042

TITLE: Synthesis of 3-alkoxy-3-aryl-4,4-diisopropyl-1,2-dioxetanes and their base-induced chemiluminescence

AUTHOR(S): Watanabe, Nobuko; Suganuma, Hiroyuki; Kobayashi, Hisako; Mutoh, Hiroshi; Katao, Yuriko; Matsumoto, Masakatsu

CORPORATE SOURCE: Department of Materials Science, Kanagawa University, Kanagawa, 259-12, Japan

SOURCE: Tetrahedron (1999), 55(14), 4287-4298

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 160320-36-5P 160320-40-1P 160320-42-3P

163396-60-9P 163396-61-0P 163396-62-1P

163396-63-2P 163396-64-3P 163396-65-4P

163396-66-5P

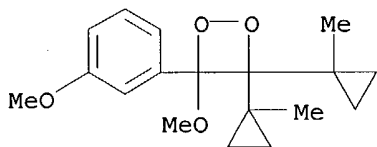
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(preparation and base-induced chemiluminescence of alkoxyaryldioxetanes)

RN 160320-36-5 CAPLUS

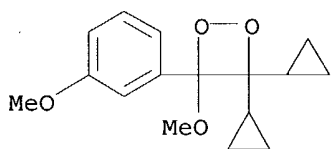
10/798,338

CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylcyclopropyl)-  
(9CI) (CA INDEX NAME)



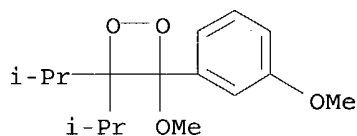
RN 160320-40-1 CAPLUS

CN 1,2-Dioxetane, 3,3-dicyclopropyl-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



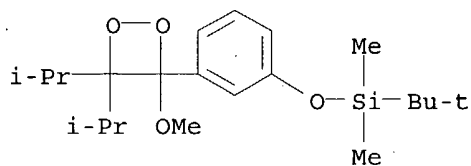
RN 160320-42-3 CAPLUS

CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI)  
(CA INDEX NAME)



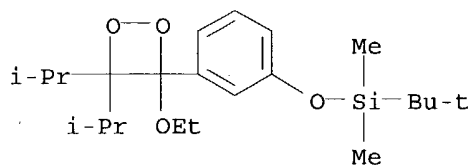
RN 163396-60-9 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 163396-61-0 CAPLUS

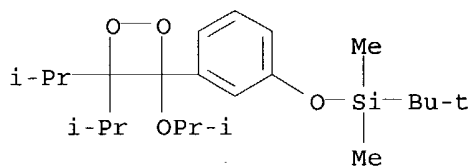
CN Silane, (1,1-dimethylethyl) [3-[3-ethoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



10/798,338

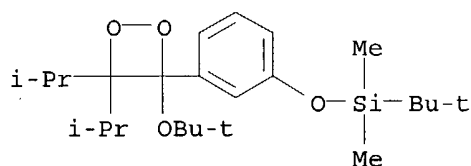
RN 163396-62-1 CAPLUS

CN Silane, (1,1-dimethylethyl)dimethyl[3-[3-(1-methylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy] - (9CI) (CA INDEX NAME)



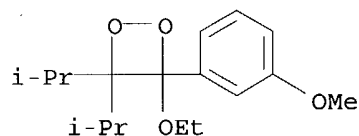
RN 163396-63-2 CAPLUS

CN Silane, [3-[3-(1,1-dimethylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy] (1,1-dimethylethyl)dimethyl - (9CI) (CA INDEX NAME)



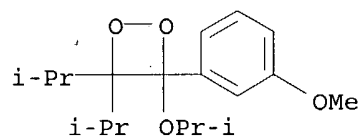
RN 163396-64-3 CAPLUS

CN 1,2-Dioxetane, 3-ethoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl) - (9CI) (CA INDEX NAME).



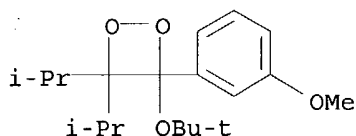
RN 163396-65-4 CAPLUS

CN 1,2-Dioxetane, 3-(3-methoxyphenyl)-3-(1-methylethoxy)-4,4-bis(1-methylethyl) - (9CI) (CA INDEX NAME)



RN 163396-66-5 CAPLUS

CN 1,2-Dioxetane, 3-(1,1-dimethylethoxy)-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl) - (9CI) (CA INDEX NAME)



AB Low-temperature singlet oxygenation of 1-alkoxy-1-aryl-2,2-diisopropylethylenes gives 1,2-dioxetanes with high selectivity. The dioxetanes are thermally stable enough to permit handling at room temperature, though the alkoxy group significantly affects their thermal stability and the order of half-life is tert-BuO < MeO < EtO < i-PrO. On treatment with tetrabutylammonium fluoride in DMSO, dioxetanes bearing a m-siloxyphenyl group decompose rapidly to emit intense blue light with  $\Phi_{CL} > 0.2$ . For the base-induced decomposition of these dioxetanes the order of rate of decomposition is

MeO < EtO < i-PrO < tert-BuO.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:81322 CAPLUS

DOCUMENT NUMBER: 126:212117

TITLE: Synthesis and chemiluminescence of 3,3-diisopropyl-4-methoxy-4-(2-naphthyl)-1,2-dioxetanes

AUTHOR(S): Matsumoto, Masakatsu; Watanabe, Nobuko; Kobayashi, Hisako; Azami, Mitsunori; Ikawa, Hiroshi

CORPORATE SOURCE: Dep. Materials Sci., Kanagawa Univ., Kanagawa, 259-12, Japan

SOURCE: Tetrahedron Letters (1997), 38(3), 411-414

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

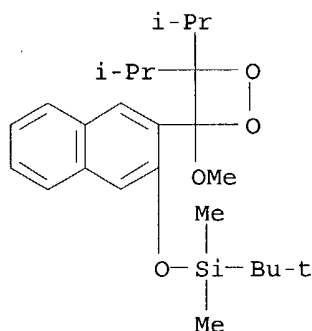
IT 187961-96-2P 187962-02-3P 187962-03-4P

187962-04-5P 187962-05-6P 187962-06-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and properties of (silylnaphthalenyl)dioxetanes)

RN 187961-96-2 CAPLUS

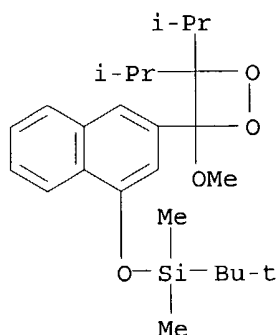
CN Silane, (1,1-dimethylethyl)[[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



RN 187962-02-3 CAPLUS

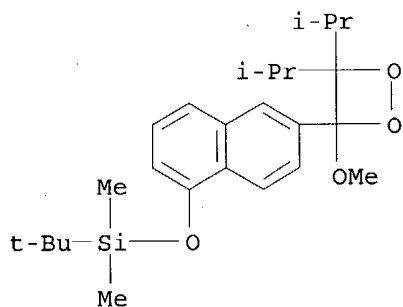
10/798,338

CN Silane, (1,1-dimethylethyl) [[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



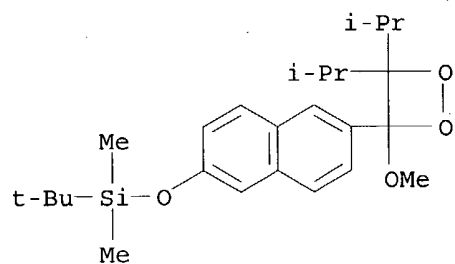
RN 187962-03-4 CAPLUS

CN Silane, (1,1-dimethylethyl) [[6-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



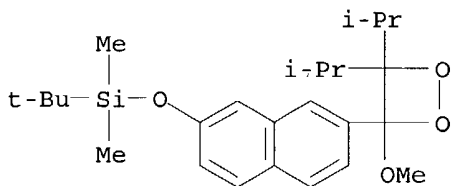
RN 187962-04-5 CAPLUS

CN Silane, (1,1-dimethylethyl) [[6-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



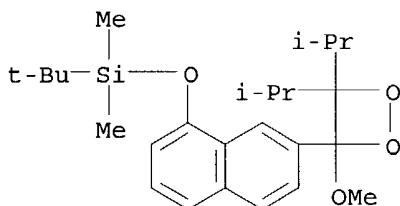
RN 187962-05-6 CAPLUS

CN Silane, (1,1-dimethylethyl) [[7-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-2-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)

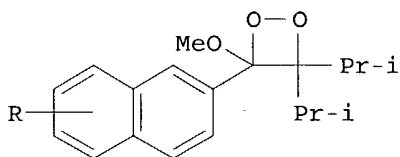


RN 187962-06-7 CAPLUS

CN Silane, (1,1-dimethylethyl) [[7-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-1-naphthalenyl]oxy]dimethyl- (9CI) (CA INDEX NAME)



GI



I

AB Six isomeric 3,3-diisopropyl-4-methoxy-4-[(silyl)-2-naphthalenyl]dioxetanes I (R = TBDMSO) were prepared and their fluoride-induced chemiluminescence was examined in DMSO. One dioxetane was found to be a new type of chemiluminescent substrate which gave an intense flash light. Other isomeric naphthalenyldioxetanes exhibited chemiluminescent properties in agreement with the 'odd/even' relationship.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:740300 CAPLUS

DOCUMENT NUMBER: 126:18861

TITLE: Preparation of 3-alkoxy-3-phenyl-1,2-dioxetane derivatives as chemiluminescent agents

INVENTOR(S): Matsumoto, Masakatsu

PATENT ASSIGNEE(S): Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:



PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08245615	A2	19960924	JP 1995-79931	19950311

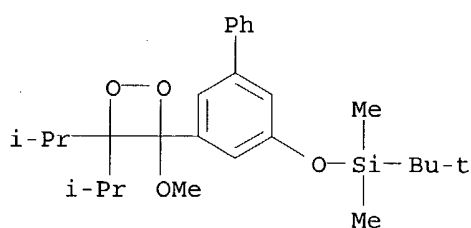
PRIORITY APPLN. INFO.:  
OTHER SOURCE(S): MARPAT 126:18861

IT 173438-83-0P 184095-22-5P 184095-23-6P  
184095-24-7P 184095-25-8P 184095-26-9P  
184095-27-0P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(preparation of alkoxyphenyldioxetane derivs. as chemiluminescent agents for chemiluminescent immunoassays)

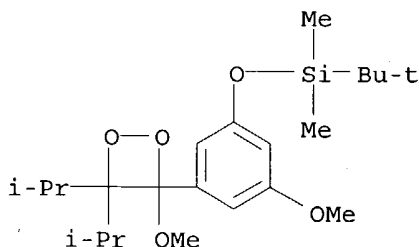
RN 173438-83-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [[5-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl] [1,1'-biphenyl]-3-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



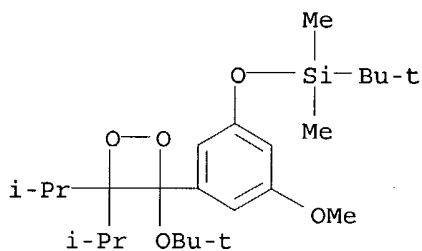
RN 184095-22-5 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-methoxy-5-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 184095-23-6 CAPLUS

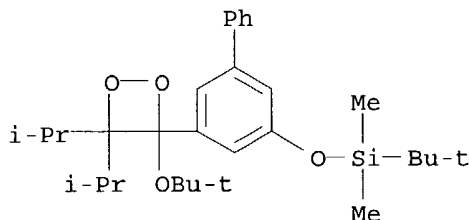
CN Silane, [3-[3-(1,1-dimethylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-5-methoxyphenoxy] (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 184095-24-7 CAPLUS

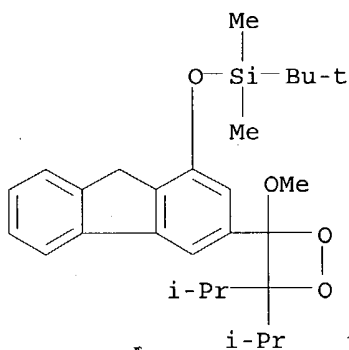
10/798,338

CN Silane, [[5-[3-(1,1-dimethylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl][1,1'-biphenyl]-3-yl]oxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



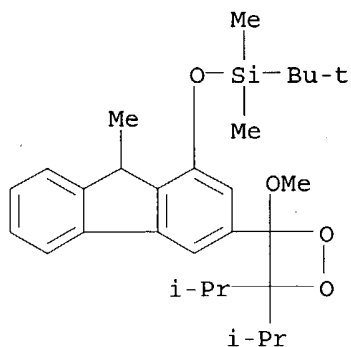
RN 184095-25-8 CAPLUS

CN Silane, (1,1-dimethylethyl)[[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-9H-fluoren-1-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



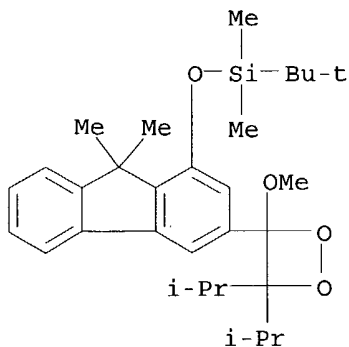
RN 184095-26-9 CAPLUS

CN Silane, (1,1-dimethylethyl)[[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-9-methyl-9H-fluoren-1-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)

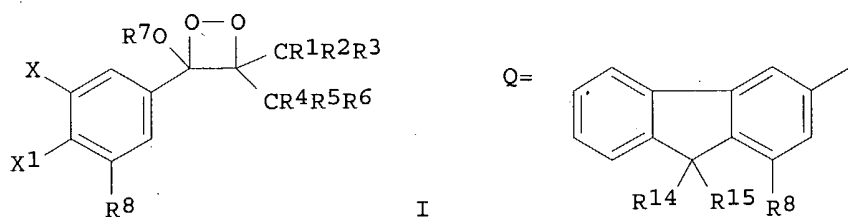


RN 184095-27-0 CAPLUS

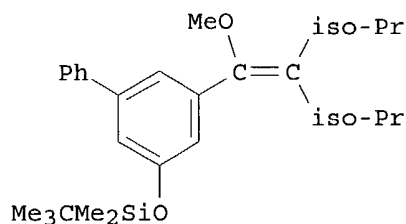
CN Silane, (1,1-dimethylethyl)[[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-9,9-dimethyl-9H-fluoren-1-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



GI



I



II

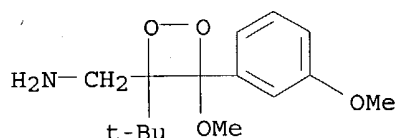
AB The title compds. [I; R1 - R6 = H, alkyl, provided that all R1 - R6 ≠ H or R1R2 and R4R5 may form a cycloalkyl ring; R7 = alkyl; R8 = alkoxy, OSiR9R10R11, P(O)(OH)2 salt; wherein R9 - R11 = alkyl; X, X1 = H, alkoxy, (un)substituted Ph, halo, alkyl; provided that X = X1 ≠ H or XX1 may form a ring], which possess excellent chemical stability, long-lasting stable luminescence, and reproducibility and do not require storage in a refrigerator and thereby eliminate troublesome temperature control and preparation on demand, and are useful as chemiluminescent agents for immunoassays, are prepared Thus, 103 mg vinylbiphenyl derivative (II)

(preparation

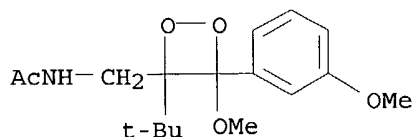
given) and 5 mg TPP was dissolved in CH<sub>2</sub>Cl<sub>2</sub>, stirred at -78° under 0 atmospheric, and irradiated with a Na lamp (940 W) for 2 h to give, after TLC purification, 88.5% I (CR1R2R3 = CR4R5R6 = iso-Pr, R7 = Me, X = Ph, X1 = H, R8 = OSiMe<sub>2</sub>CMe<sub>3</sub>). A DMSO solution of the latter compound (1.8 × 10<sup>-5</sup> M, 1 mL) was added to a DMSO solution of Bu<sub>4</sub>NF (1.0 × 10<sup>-3</sup> M, 2 mL) to exhibit luminescence at λ<sub>max</sub> of 462 nm with photon quantum yield of 0.079 and half life of 10.6 s.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1996:683544 CAPLUS

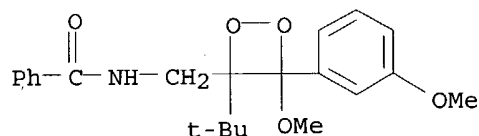
DOCUMENT NUMBER: 126:74402  
 TITLE: Singlet oxygenation of 1-aminomethyl-1-tert-butyl-2-methoxy-2-(3-methoxyphenyl)ethylenes: marked effect of allylic nitrogen on the reaction pathways and chemoselectivity  
 AUTHOR(S): Matsumoto, Masakatsu; Kitano, Yoshikazu; Kobayashi, Hisako; Ikawa, Hiroshi  
 CORPORATE SOURCE: Dep. Materials Sci., Kanagawa Univ., Kanagawa, 259-12, Japan  
 SOURCE: Tetrahedron Letters (1996), 37(45), 8191-8194  
 CODEN: TELEAY; ISSN: 0040-4039  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 IT 185322-03-6  
 RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (intermediate; singlet oxygenation of allylic amines)  
 RN 185322-03-6 CAPLUS  
 CN 1,2-Dioxetane-3-methanamine, 3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



IT 185321-98-6 185321-99-7 185322-00-3  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (singlet oxygenation of allylic amines)  
 RN 185321-98-6 CAPLUS  
 CN Acetamide, N-[[3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-1,2-dioxetan-3-yl]methyl]- (9CI) (CA INDEX NAME)



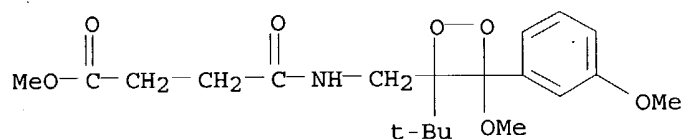
RN 185321-99-7 CAPLUS  
 CN Benzamide, N-[[3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-1,2-dioxetan-3-yl]methyl]- (9CI) (CA INDEX NAME)



RN 185322-00-3 CAPLUS  
 CN Butanoic acid, 4-[[[3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-

10/798,338

1,2-dioxetan-3-yl]methyl]amino]-4-oxo-, methyl ester (9CI) (CA INDEX NAME)

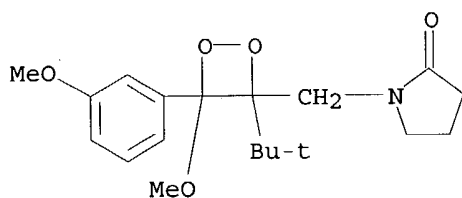


IT 185322-07-0P

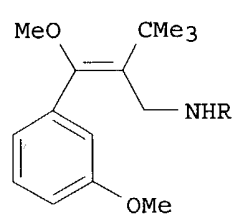
RL: SPN (Synthetic preparation); PREP (Preparation)  
(singlet oxygenation of allylic amines)

RN 185322-07-0 CAPLUS

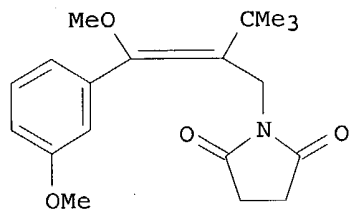
CN 2-Pyrrolidinone, 1-[[3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-1,2-dioxetan-3-yl]methyl]- (9CI) (CA INDEX NAME)



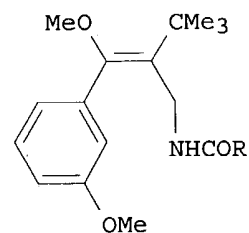
GI



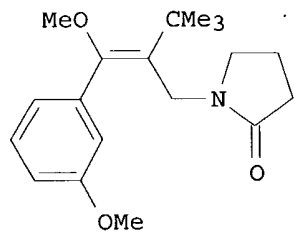
I



II



III



IV

AB The character of an allylic nitrogen affects significantly the reaction pathways as well as the chemoselectivity in the singlet oxygenation of allylic amines [(I; R=neopentyl, p-anisylmethyl, H), II, III (R=Me, Ph, CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>Me) and IV]. Secondary amines (I; R=neopentyl, p-anisylmethyl) undergo α-oxidation to give imines. A primary amine (I; R=H) and amides III undergo preferentially the 1,2-addition of singlet oxygen, whereas the

singlet oxygenation of an imide (II) afforded selectively an ene reaction product. For a lactam (IV), the 1,2-addition and the ene reaction of singlet oxygen occur concurrently.

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:519944 CAPLUS

DOCUMENT NUMBER: 125:275132

TITLE: Synthesis of 3-alkoxymethyl-4-aryl-3-tert-butyl-4-methoxy-1,2-dioxetanes as chemiluminescent substrates with short half-life emission

AUTHOR(S): Matsumoto, Masakatsu; Watanabe, Nobuko; Kobayashi, Hisako; Suganuma, Hiroyuki; Matsubara, Jyunya; Kitani, Yoshikazu; Ikawa, Hiroshi

CORPORATE SOURCE: Dep. Mater. Sci., Kanagawa Univ., Kanagawa, 259-12, Japan

SOURCE: Tetrahedron Letters (1996), 37(33), 5939-5942

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

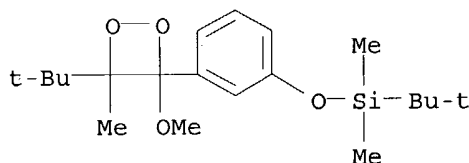
IT 172024-19-0P 172024-21-4P 172024-27-0P

172024-28-1P 172024-30-5P 182357-20-6P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and chemiluminescence of dioxetanes)

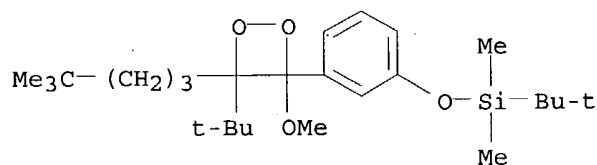
RN 172024-19-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-methyl-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



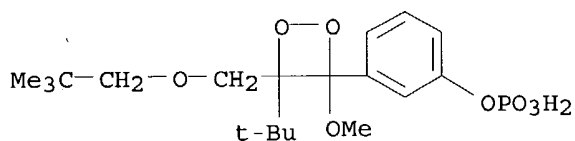
RN 172024-21-4 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-(4,4-dimethylpentyl)-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 172024-27-0 CAPLUS

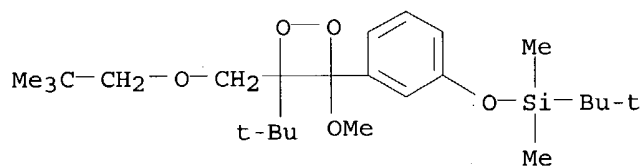
CN Phenol, 3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-methoxy-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



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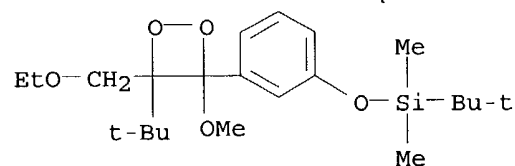
RN 172024-28-1 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



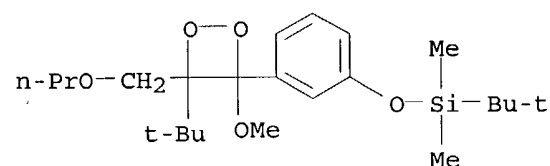
RN 172024-30-5 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-(ethoxymethyl)-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)

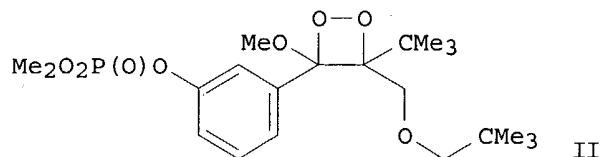
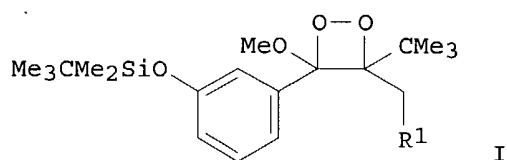


RN 182357-20-6 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-(propoxymethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



GI



AB Treatment of 3-alkoxymethyl-3-tert-butyl-4-(3-tert-butyldimethylsiloxy)phenyl-4-methoxy-1,2-dioxetanes I (R = Et, Pr, neopentyl) with TBAF in DMAO gives intensive blue light emission ( $\lambda_{\text{max}} = 463 \text{ nm}$ ,  $\Phi_{\text{CL}} > 0.1$ ) with short half-life ( $t_{1/2} < 1 \text{ s}$ ), whereas the methylene analogs cause chemiluminescence with far longer half-lives. A dioxetane II bearing a phosphoryloxyphenyl is cleaved enzymically by alkaline phosphatase to generate light with high intensity.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:444140 CAPLUS

DOCUMENT NUMBER: 125:81269

TITLE: Chemiluminescent dialkyl-substituted 1,2-dioxetane compounds, methods of synthesis and use

INVENTOR(S): Schaap, Arthur Paul; Akhavan-Tafti, Hashem

PATENT ASSIGNEE(S): Lumigen, Inc., USA

SOURCE: PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9616137	A1	19960530	WO 1995-US14193	19951102
W: AU, CA, CN, FI, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5578253	A	19961126	US 1994-344124	19941123
CA 2203160	AA	19960530	CA 1995-2203160	19951102
AU 9641419	A1	19960617	AU 1996-41419	19951102
AU 684409	B2	19971211		
EP 794987	A1	19970917	EP 1995-939701	19951102
EP 794987	B1	20020925		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 10509456	T2	19980914	JP 1995-516892	19951102
AT 224938	E	20021015	AT 1995-939701	19951102
US 5886238	A	19990323	US 1996-704074	19960828
AU 9736771	A1	19971211	AU 1997-36771	19970902
AU 724148	B2	20000914		
AU 9736770	A1	19980122	AU 1997-36770	19970902
AU 700925	B2	19990114		
US 5892064	A	19990406	US 1997-978800	19971126
US 6284899	B1	20010904	US 1997-999930	19971128



10/798,338

PRIORITY APPLN. INFO.:

US 1994-344124	A 19941123
WO 1995-US14193	W 19951102
US 1996-703973	B1 19960828

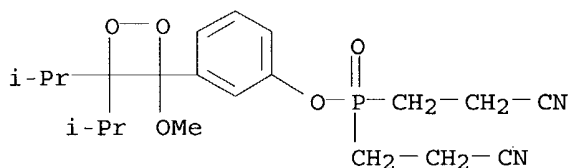
OTHER SOURCE(S): MARPAT 125:81269

IT 178804-82-5

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(chemiluminescent dialkyl-substituted 1,2-dioxetane compds. synthesis  
and anal. use)

RN 178804-82-5 CAPLUS

CN Phosphinic acid, bis(2-cyanoethyl)-, 3-[3-methoxy-4,4-bis(1-methylethyl)-  
1,2-dioxetan-3-yl]phenyl ester (9CI) (CA INDEX NAME)



IT 163396-60-9P 172024-15-6P 178804-63-2P

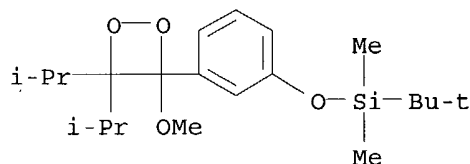
178804-65-4P 178804-67-6P 178804-69-8P

178804-72-3P 178804-74-5P 178804-76-7P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(chemiluminescent dialkyl-substituted 1,2-dioxetane compds. synthesis  
and anal. use)

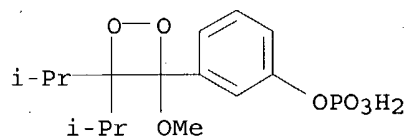
RN 163396-60-9 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-  
dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 172024-15-6 CAPLUS

CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-,  
dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

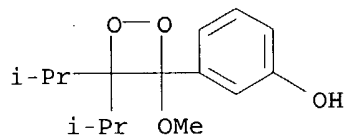


●2 Na

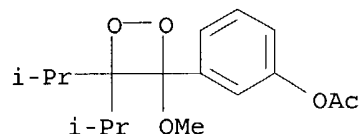
RN 178804-63-2 CAPLUS

CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]- (9CI) (CA  
INDEX NAME)

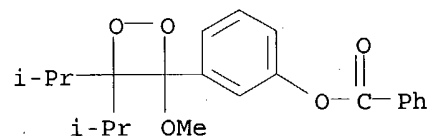
10/798,338



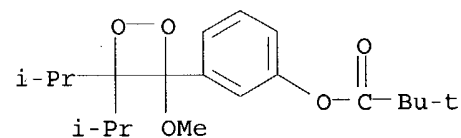
RN 178804-65-4 CAPLUS  
CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-, acetate  
(9CI) (CA INDEX NAME)



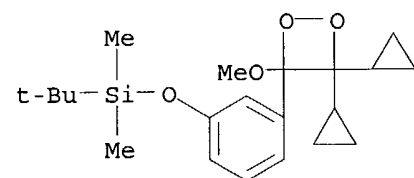
RN 178804-67-6 CAPLUS  
CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-, benzoate  
(9CI) (CA INDEX NAME)



RN 178804-69-8 CAPLUS  
CN Propanoic acid, 2,2-dimethyl-, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenyl ester (9CI) (CA INDEX NAME)



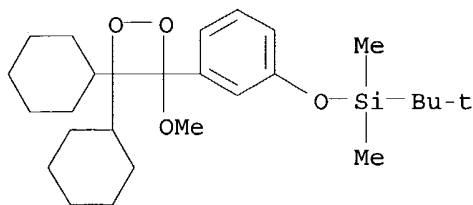
RN 178804-72-3 CAPLUS  
CN Silane, [3-(4,4-dicyclopropyl-3-methoxy-1,2-dioxetan-3-yl)phenoxy] (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 178804-74-5 CAPLUS

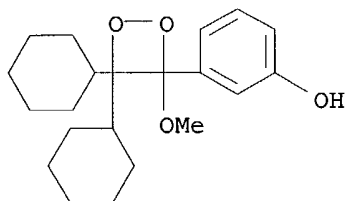
10/798,338

CN Silane, [3-(4,4-dicyclohexyl-3-methoxy-1,2-dioxetan-3-yl)phenoxy] (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 178804-76-7 CAPLUS

CN Phenol, 3-(4,4-dicyclohexyl-3-methoxy-1,2-dioxetan-3-yl)- (9CI) (CA INDEX NAME)



AB A chemiluminescent assay method and compns. are described which use a dialkyl-substituted dioxetane which is deprotected to trigger a chemiluminescent reaction. Chemiluminescent 1,2-dioxetane compds. substituted on the dioxetane ring with 2 nonspirofused alkyl groups which can be triggered by a reagent to generate light are disclosed. Dialkyl-substituted dioxetanes are useful for the detection of triggering agents including enzymes. The enzyme may be present alone or linked to a member of a specific binding pair in an immunoassay, DNA probe assay, or other assay where the enzyme is bound to a reporter mol.

L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:55500 CAPLUS

DOCUMENT NUMBER: 124:231652

TITLE: Effect of allylic oxygen on the reaction pathways of singlet oxygenation: selective formation of 1,2-dioxetanes from 1-alkoxymethyl-2-aryl-1-tert-butyl-2-methoxyethylenes

AUTHOR(S): Matsumoto, Masakatsu; Kobayashi, Hisako; Matsubara, Jyunya; Watanabe, Nobuko; Yamashita, Satoshi; Oguma, Daisuke; Kitano, Yoshikazu; Ikawa, Hiroshi

CORPORATE SOURCE: Dep. Materials Science, Kanagawa Univ., Hiratsuka, 259-12, Japan

SOURCE: Tetrahedron Letters (1996), 37(3), 397-400

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 124:231652

IT 174737-48-5P 174737-49-6P 174737-50-9P

174737-51-0P 174737-55-4P 174737-56-5P

174737-57-6P

RL: PNU (Preparation, unclassified); PREP (Preparation)

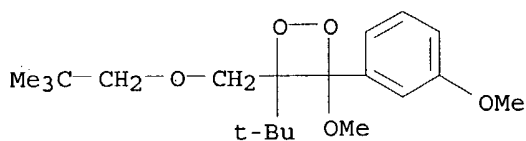
(allylic oxygen effect on reaction paths of singlet oxygenation in

10/798,338

selective formation of 1,2-dioxetanes from 1-alkoxymethyl-2-aryl-1-tert-butyl-2-methoxyethylenes)

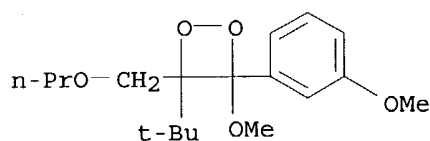
RN 174737-48-5 CAPLUS

CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-3-[(2,2-dimethylpropoxy)methyl]-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



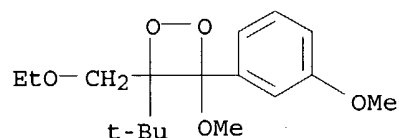
RN 174737-49-6 CAPLUS

CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-3-(propoxymethyl)- (9CI) (CA INDEX NAME)



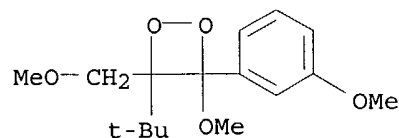
RN 174737-50-9 CAPLUS

CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-3-(ethoxymethyl)-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 174737-51-0 CAPLUS

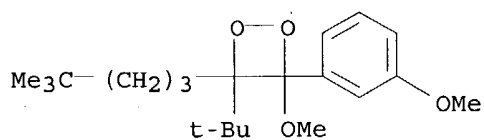
CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-4-methoxy-3-(methoxymethyl)-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 174737-55-4 CAPLUS

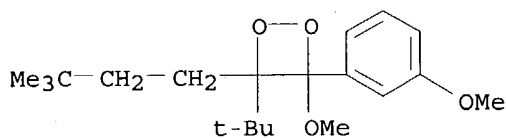
CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-3-(4,4-dimethylpentyl)-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)

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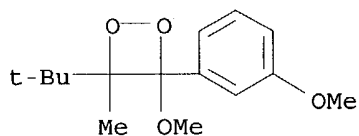
RN 174737-56-5 CAPLUS

CN 1,2-Dioxetane, 3-(3,3-dimethylbutyl)-3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)

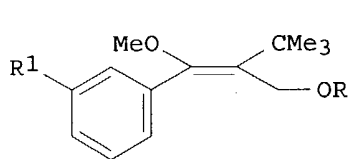


RN 174737-57-6 CAPLUS

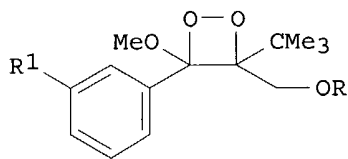
CN 1,2-Dioxetane, 3-(1,1-dimethylethyl)-4-methoxy-4-(3-methoxyphenyl)-3-methyl- (9CI) (CA INDEX NAME)



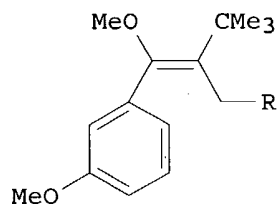
GI



I



II



III

AB Olefins bearing an allylic oxygen I undergo 1,2-addition of singlet oxygen to afford exclusively the corresponding 1,2-dioxetanes II, whereas their methylene analogs III suffer competitively 1,2-addition and ene reaction. The reactivity of I preferring 1,2-addition is likely attributed to the steering effect by an allylic oxygen.

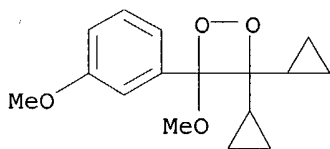
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1995:994322 CAPLUS

10/798,338

DOCUMENT NUMBER: 124:55938  
TITLE: Preparation of 1,2-dioxetanes as chemiluminescent reagents  
INVENTOR(S): Matsumoto, Masakatsu  
PATENT ASSIGNEE(S): Japan  
SOURCE: Eur. Pat. Appl., 90 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 671395	A1	19950913	EP 1995-400536	19950313
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08165287	A2	19960625	JP 1995-81687	19950313
JP 08169885	A2	19960702	JP 1995-81686	19950313
US 5650525	A	19970722	US 1995-403212	19950313
JP 08151342	A2	19960611	JP 1995-134689	19950509
US 5698727	A	19971216	US 1995-469442	19950606
US 5936132	A	19990810	US 1997-815484	19970311
PRIORITY APPLN. INFO.:			JP 1994-67801	19940311
			JP 1994-67802	19940311
			JP 1994-181926	19940712
			JP 1994-259066	19940929
			JP 1994-281511	19941021
			US 1995-403212	19950313

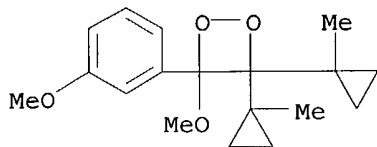
OTHER SOURCE(S): MARPAT 124:55938  
IT 160320-40-1P  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(preparation of 1,2-dioxetane as chemiluminescent reagents)  
RN 160320-40-1 CAPLUS  
CN 1,2-Dioxetane, 3,3-dicyclopropyl-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



IT 160320-36-5P 160320-42-3P 163396-60-9P  
163396-62-1P 163396-65-4P 163396-66-5P  
172024-14-5P 172024-15-6P 172024-16-7P  
172024-17-8P 172024-18-9P 172024-19-0P  
172024-20-3P 172024-21-4P 172024-24-7P  
172024-25-8P 172024-26-9P 172024-27-0P  
172024-28-1P 172024-29-2P 172024-30-5P  
172024-31-6P 172024-32-7P 172024-33-8P  
172024-34-9P 172024-35-0P 172024-36-1P  
172024-37-2P 172024-38-3P  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(preparation of 1,2-dioxetanes as chemiluminescent reagents)  
RN 160320-36-5 CAPLUS  
CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylcyclopropyl)-

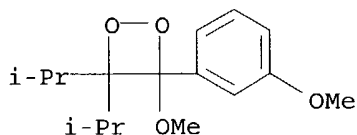
10/798,338

(9CI) (CA INDEX NAME)



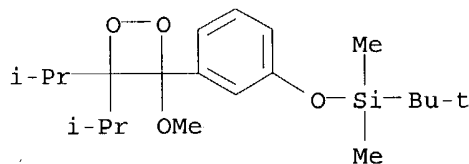
RN 160320-42-3 CAPLUS

CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI)  
(CA INDEX NAME)



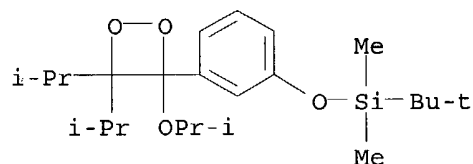
RN 163396-60-9 CAPLUS

CN Silane, (1,1-dimethylethyl)[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



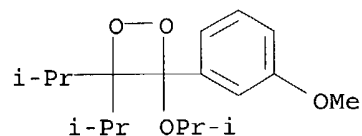
RN 163396-62-1 CAPLUS

CN Silane, (1,1-dimethylethyl)dimethyl[3-[3-(1-methylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]- (9CI) (CA INDEX NAME)



RN 163396-65-4 CAPLUS

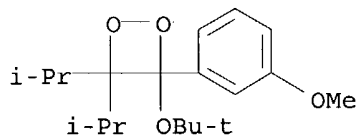
CN 1,2-Dioxetane, 3-(3-methoxyphenyl)-3-(1-methylethoxy)-4,4-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



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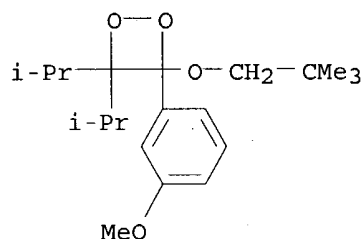
RN 163396-66-5 CAPLUS

CN 1,2-Dioxetane, 3-(1,1-dimethylethoxy)-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



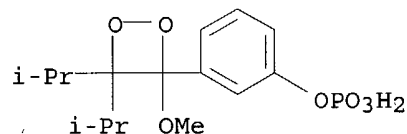
RN 172024-14-5 CAPLUS

CN 1,2-Dioxetane, 3-(2,2-dimethylpropoxy)-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 172024-15-6 CAPLUS

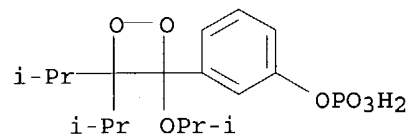
CN Phenol, 3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 172024-16-7 CAPLUS

CN Phenol, 3-[3-(1-methylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



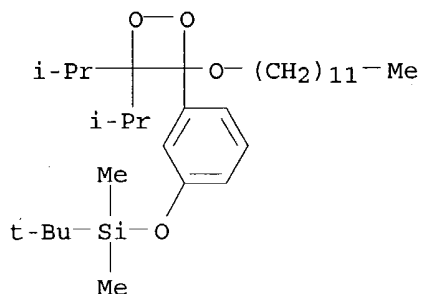
●2 Na



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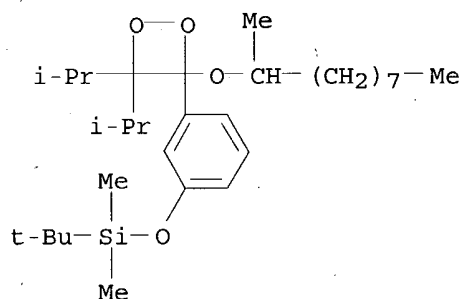
RN 172024-17-8 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[3-(dodecyloxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



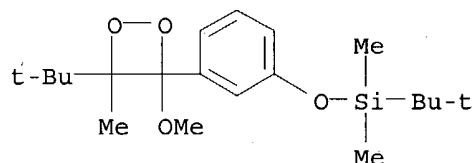
RN 172024-18-9 CAPLUS

CN Silane, [3-[4,4-bis(1-methylethyl)-3-[(1-methylnonyl)oxy]-1,2-dioxetan-3-yl]phenoxy] (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 172024-19-0 CAPLUS

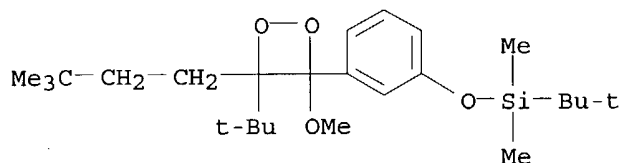
CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-methyl-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 172024-20-3 CAPLUS

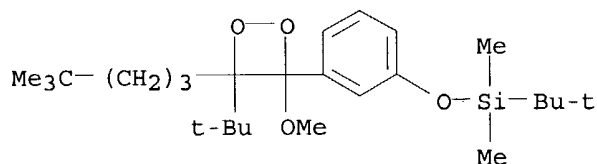
CN Silane, [3-[4-(3,3-dimethylbutyl)-4-(1,1-dimethylethyl)-3-methoxy-1,2-dioxetan-3-yl]phenoxy] (1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

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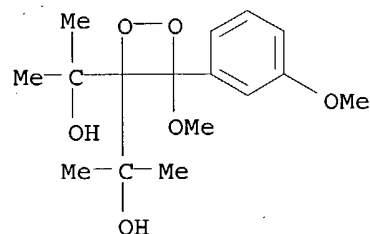
RN 172024-21-4 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-(4,4-dimethylpentyl)-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



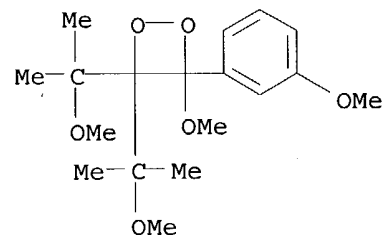
RN 172024-24-7 CAPLUS

CN 1,2-Dioxetane-3,3-dimethanol, 4-methoxy-4-(3-methoxyphenyl)-  
alpha, alpha, alpha', alpha'-tetramethyl- (9CI) (CA INDEX NAME)



RN 172024-25-8 CAPLUS

CN 1,2-Dioxetane, 3-methoxy-4,4-bis(1-methoxy-1-methylethyl)-3-(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



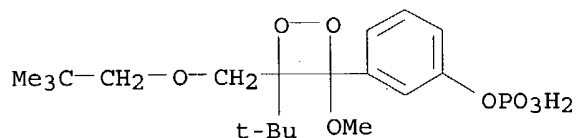
RN 172024-26-9 CAPLUS

CN Phenol, 3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-methoxy-1,2-dioxetan-3-yl]-, dihydrogen phosphate, ammonium sodium salt (9CI) (CA INDEX NAME)

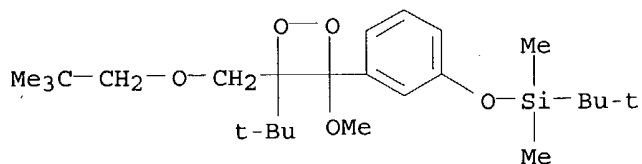
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● Na

Phenol, 3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-methoxy-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

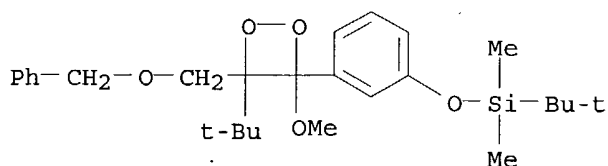


17/02/21 10:11 AM  
CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl-  
(9CI) (CA INDEX NAME)



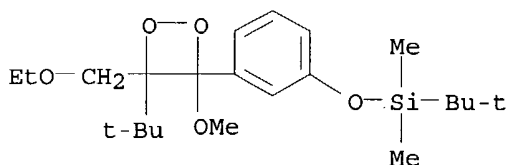
CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-  
 [(phenylmethoxy)methyl]-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA  
 INDEX NAME)

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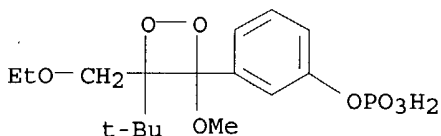
RN 172024-30-5 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-(ethoxymethyl)-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 172024-31-6 CAPLUS

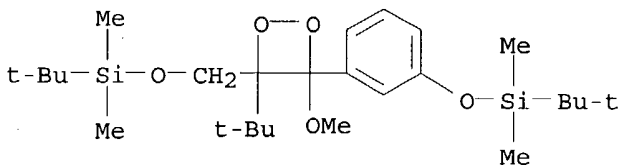
CN Phenol, 3-[4-(1,1-dimethylethyl)-4-(ethoxymethyl)-3-methoxy-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 172024-32-7 CAPLUS

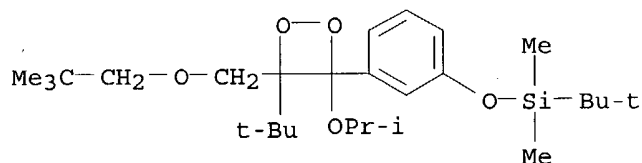
CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]methyl]-3-methoxy-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



RN 172024-33-8 CAPLUS

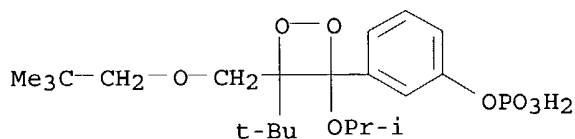
CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-(1-methylethoxy)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)

10/798,338



RN 172024-34-9 CAPLUS

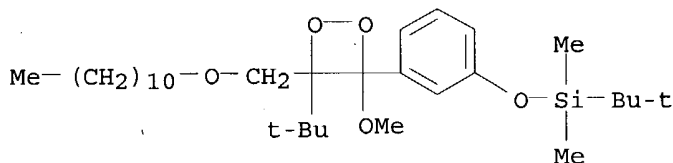
CN Phenol, 3-[4-(1,1-dimethylethyl)-4-[(2,2-dimethylpropoxy)methyl]-3-(1-methylethoxy)-1,2-dioxetan-3-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

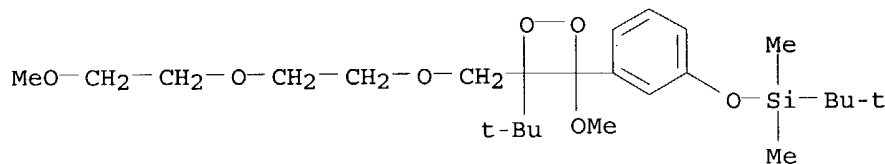
RN 172024-35-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-[(undecyloxy)methyl]-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



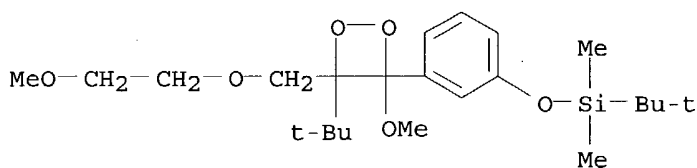
RN 172024-36-1 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-[[2-(2-methoxyethoxy)ethoxy)methyl]-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)

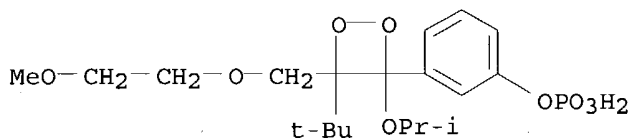


RN 172024-37-2 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[4-(1,1-dimethylethyl)-3-methoxy-4-[[2-(2-methoxyethoxy)methyl]-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)

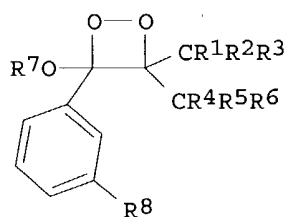


RN 172024-38-3 CAPLUS  
 CN Phenol, 3-[4-(1,1-dimethylethyl)-4-[(2-methoxyethoxy)methyl]-3-(1-methylethoxy)-1,2-dioxetan-2-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

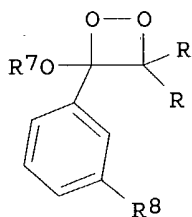


● 2 Na

GI



I



II

AB Title compds. [I; R1,R4 = H, alkyl, alkoxy, OH, tris(alkyl)silyloxy; R2,R3,R5,R6 = H, alkyl; R2R3,R5R6 = alkylene; R7 = alkyl; R8 = H, alkoxy, tris(alkyl)silyloxy, etc.] were prepared. Thus, 3-(MeO)C6H4CHO was converted in 2 steps to 3-(MeO)C6H4CH(OMe)P(O)(OMe)2 which was condensed with dicyclopentyl ketone and the product irradiated in the presence of O and tetraphenylporphine to give title compound II (R = cyclopropyl, R7 = Me, R8 = OMe). Luminescence data for, e.g., II [R = R7 = CHMe2, R8 = OP(O)(ONa)2] in an enzyme assay were given.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:956546 CAPLUS

DOCUMENT NUMBER: 124:145229

TITLE: Synthesis and chemiluminescence of 3-biphenyl-4,4-diisopropyl-3-methoxy-1,2-dioxetanes

AUTHOR(S): Matsumoto, Masakatsu; Suganuma, Hiroyuki; Azami, Mitsunori; Aoshima, Naoko; Mutoh, Hiroshi

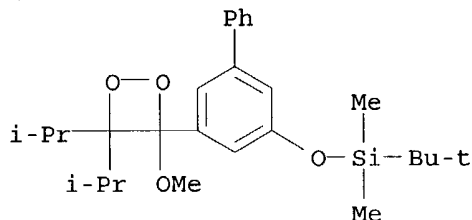
CORPORATE SOURCE: Dep. Mater. Sci., Kanagawa Univ., Kanagawa, 259-12, Japan

SOURCE: Heterocycles (1995), 41(11), 2419-22

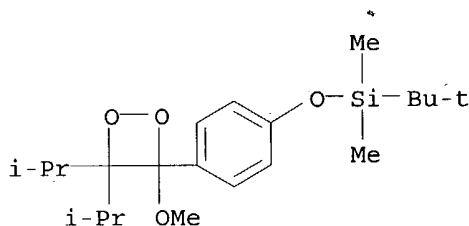
CODEN: HETCYAM; ISSN: 0385-5414

PUBLISHER: Japan Institute of Heterocyclic Chemistry

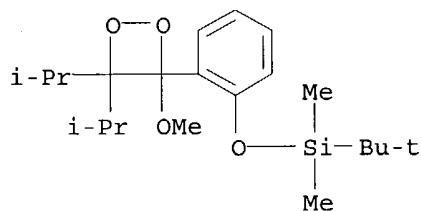
DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 124:145229  
 IT 173438-83-0P 173438-88-5P 173438-89-6P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and fluoride-induced chemiluminescence of)  
 RN 173438-83-0 CAPLUS  
 CN Silane, (1,1-dimethylethyl) [[5-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl] [1,1'-biphenyl]-3-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)



RN 173438-88-5 CAPLUS  
 CN Silane, (1,1-dimethylethyl) [4-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



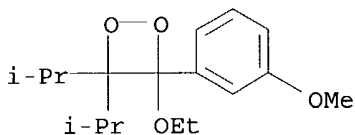
RN 173438-89-6 CAPLUS  
 CN Silane, (1,1-dimethylethyl) [2-[3-methoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



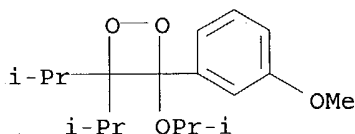
AB Five 3-biphenyl-4,4-diisopropyl-3-methoxy-1,2-dioxetanes with a tert-butyldimethylsiloxy group at the appropriate position on the aromatic ring were synthesized and their fluoride-induced chemiluminescence were examined

L4 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1995:427393 CAPLUS  
 DOCUMENT NUMBER: 122:313997  
 TITLE: Thermal stability and chemiluminescence of

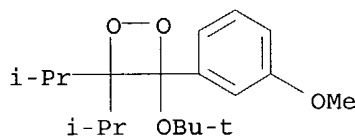
3-alkoxy-3-aryl-4,4-diisopropyl-1,2-dioxetanes  
 AUTHOR(S): Matsumoto, Masakatsu; Suganuma, Hiroyuki; Katao, Yuriko; Mutoh, Hiroshi  
 CORPORATE SOURCE: Dep. Mater. Sci., Kanagawa Univ., Kanagawa, 259-12, Japan  
 SOURCE: Journal of the Chemical Society, Chemical Communications (1995), (4), 431-2  
 CODEN: JCCCAT; ISSN: 0022-4936  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 122:313997  
 IT 163396-64-3P 163396-65-4P 163396-66-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and thermal stability of)  
 RN 163396-64-3 CAPLUS  
 CN 1,2-Dioxetane, 3-ethoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI)  
 (CA INDEX NAME)



RN 163396-65-4 CAPLUS  
 CN 1,2-Dioxetane, 3-(3-methoxyphenyl)-3-(1-methylethoxy)-4,4-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



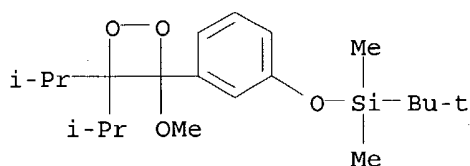
RN 163396-66-5 CAPLUS  
 CN 1,2-Dioxetane, 3-(1,1-dimethylethoxy)-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



IT 163396-60-9P 163396-61-0P 163396-62-1P  
 163396-63-2P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (thermal stability and chemiluminescence of  
 (alkoxyaryl)diisopropyldioxetanes)  
 RN 163396-60-9 CAPLUS  
 CN Silane, (1,1-dimethylethyl)[3-[3-methoxy-4,4-bis(1-methylethyl)-1,2-

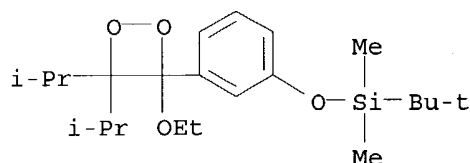


dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



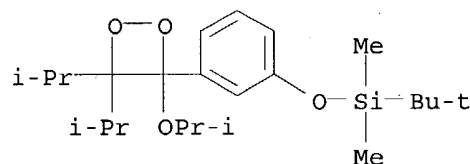
RN 163396-61-0 CAPLUS

CN Silane, (1,1-dimethylethyl) [3-[3-ethoxy-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]dimethyl- (9CI) (CA INDEX NAME)



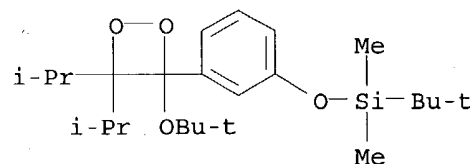
RN 163396-62-1 CAPLUS

CN Silane, (1,1-dimethylethyl)dimethyl[3-[3-(1-methylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy]- (9CI) (CA INDEX NAME)



RN 163396-63-2 CAPLUS

CN Silane, [3-[3-(1,1-dimethylethoxy)-4,4-bis(1-methylethyl)-1,2-dioxetan-3-yl]phenoxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



AB The singlet oxygenation of alkenes 3-R1OC6H4C(OR):C(CHMe2)2 [R = Me, Et, CHMe2, CMe3; R1 = Me, SiMe2CMe3] gives the corresponding dioxetanes, whose thermal stability and half-life of chemiluminescence induced by TBAF are significantly affected by the 3-alkoxyl group.

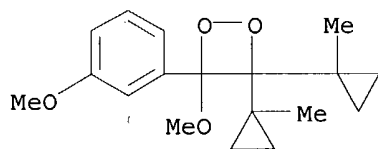
L4 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:218153 CAPLUS

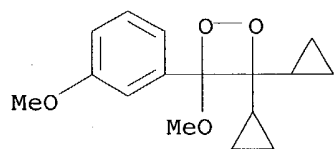
DOCUMENT NUMBER: 122:81178

TITLE: 3,3-Dicyclopropyl-1,2-dioxetanes: unusual temperature effect on the singlet oxygenation of

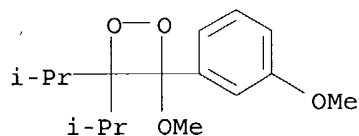
1,1-dialkylethylenes  
 AUTHOR(S): Matsumoto, Masakatsu; Suganuma, Hiroyuki  
 CORPORATE SOURCE: Dep. Mater. Sci., Kanagawa Univ., Tsuchiya, Hiratsuka,  
 Kanagawa, 259-12, Japan  
 SOURCE: Journal of the Chemical Society, Chemical  
 Communications (1994), (21), 2449-50  
 CODEN: JCCCAT; ISSN: 0022-4936  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 122:81178  
 IT **160320-36-5P 160320-40-1P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (temperature effect on the singlet oxygenation of 1,1-dialkylethylenes)  
 RN 160320-36-5 CAPLUS  
 CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylcyclopropyl)-  
 (9CI) (CA INDEX NAME)



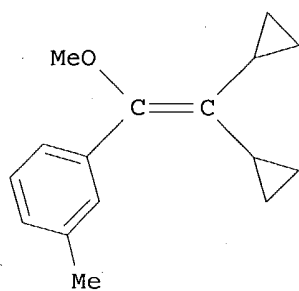
RN 160320-40-1 CAPLUS  
 CN 1,2-Dioxetane, 3,3-dicyclopropyl-4-methoxy-4-(3-methoxyphenyl)- (9CI) (CA  
 INDEX NAME)



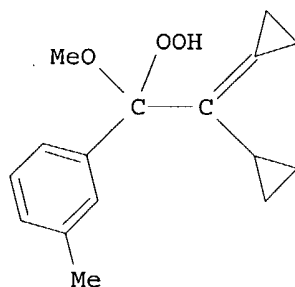
IT **160320-42-3P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (temperature effect on the singlet oxygenation of 1,1-dialkylethylenes)  
 RN 160320-42-3 CAPLUS  
 CN 1,2-Dioxetane, 3-methoxy-3-(3-methoxyphenyl)-4,4-bis(1-methylethyl)- (9CI)  
 (CA INDEX NAME)



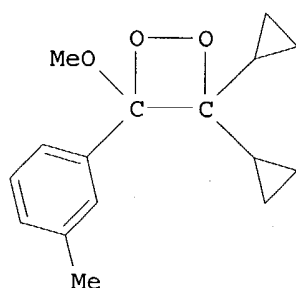
GI



I



II



III

AB The reaction temperature has a significant effect on the singlet oxygenation of vinylcyclopropane I to yield allylic hydroperoxide II and dioxetane III.

L4 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1992:461978 CAPLUS

DOCUMENT NUMBER: 117:61978

TITLE: Chemiluminescent reagent and device with an aromatic primary amine compound

INVENTOR(S): Kamiyama, Mikio; Kawakatsu, Satoru; Kaneko, Yutaka; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03282257	A2	19911212	JP 1990-80675	19900330

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 117:61978

IT 142081-45-6P 142081-46-7P

RL: SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)

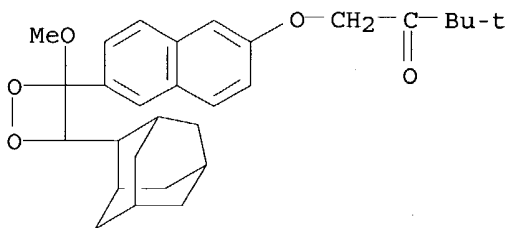
(preparation and use of, chemiluminescent reagent from, for determining hydrogen peroxide)

RN 142081-45-6 CAPLUS

CN 2-Butanone, 1-[[6-(3-methoxy-4-tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl)-1,2-dioxetan-3-

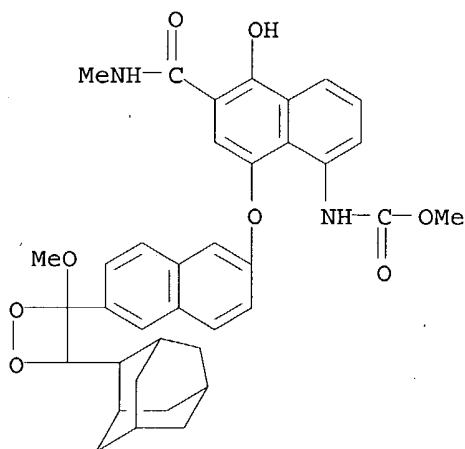
10/798,338

yl)-2-naphthalenyl]oxy]-3,3-dimethyl- (9CI) (CA INDEX NAME)

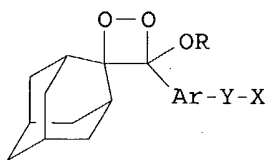


RN 142081-46-7 CAPLUS

CN Carbamic acid, [5-hydroxy-8-[[6-(3-methoxy-4-tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl-1,2-dioxetan-3-yl)-2-naphthalenyl]oxy]-6-[(methylamino)carbonyl]-1-naphthalenyl]-, methyl ester (9CI) (CA INDEX NAME)



GI



I

AB This chemiluminescent reagent, especially useful for determining a specific substance

in a biochem. sample, contains an aromatic primary amine compound I (X = residue containing activated methylene or methine; Y = O, S, aromatic; R = alkyl). The device, for determining H<sub>2</sub>O<sub>2</sub>, comprises ≥1 layer containing I.

L4 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:675242 CAPLUS

DOCUMENT NUMBER: 115:275242

10/798,338

TITLE: Chemiluminescence-based static and flow cytometry  
INVENTOR(S): Bronstein, Irena Y.; Voyta, John C.  
PATENT ASSIGNEE(S): Tropix, Inc., USA  
SOURCE: U.S., 15 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

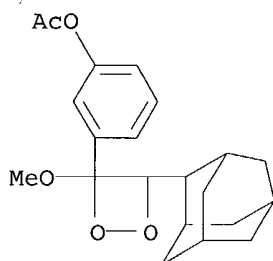
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
US 5032381	A	19910716	US 1988-286725	19881220

PRIORITY APPLN. INFO.: US 1988-286725 19881220

IT 137740-80-8  
RL: ANST (Analytical study)  
(for chemiluminescent-based static and flow cytometry)

RN 137740-80-8 CAPLUS

CN Phenol, 3-(3-methoxy-4-tricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl-1,2-dioxetan-3-yl)-, acetate (9CI) (CA INDEX NAME)



AB Individual cells and subcellular particulates may be analyzed, or detected and separated, without the need for an external energy source by reacting endogenous or added components of cells and other particulate matter with added thermally, chemical, electrochem., photochem. or enzymically decomposable chemiluminescent compds. to produce optically detectable light energy emissions. White blood cells were fixed with formalin and then incubated sequentially with solution 1 (Na<sub>2</sub>CO<sub>3</sub> buffer, pH 9.5 containing MgCl<sub>2</sub>); solution 2 (solution 1 + 3-(2'-adamantyl)-4-methoxy-4-(3''-phosphoryloxy)phenyl-1,2-dioxetane [AMPPD]); solution 2 + Na fluorescein; and solution 2 + BDMQ chemiluminescence enhancer and Na fluorescein. Aliquots of the cell suspension were then placed on a glass fiber membrane and the membrane were sandwiched between 2 pieces of Mylar film into a camera luminometer. The light resulting from 1-min exposures was imaged on Polaroid Type 612 film. Images of single neutrophils and colonies of cells are shown. The neutrophils are rich in alkaline phosphatase that catalyzes decomposition of AMPPD. Figures show schematic representations of flow cytometers and images produced.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

105.16

260.79

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

10/798,338

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-15.40

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